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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,794	04/02/2004	Chiaki Hamada	119334	9940

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EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/815,794

Applicant(s)

HAMADA ET AL.

Examiner

Melody M. Burch

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The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/18/04, 10/5/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: delta Ff, delta Fr, delta Pfo, Sf, Sr, Rf, Rr, BEFf, BEFr on pg. 19, BEF on pg. 20, BAC and HAB on pg. 21, and delta Vw, Vws, Gxs, Gxe, Pme, Vwe on pg. 22. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the braking force generating apparatuses (in which the wheel cylinders are found as recited in claim 2), also devices used to achieve the recited master cylinder pressure and rear wheel cylinder pressure recited in claim 8, for example, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

***Specification***

4. The disclosure is objected to because of the following informalities: on pg. 4 line 10 from the bottom the phrase "braking performances, which decreases" should be reworded for grammatical purposes, in line 2 from the bottom of pg. 15 and in line 7 of pg. 24 the phrase "Before staring" should be changed to --Before starting-- .

Appropriate correction is required.

***Claim Objections***

5. Claims 1-13 are objected to because of the following informalities:

- In line 3 from the bottom of claim 1 the phrase "an restricted" should be changed to --a restricted--;
  - In the last line of claim 3 the phrase "braking performances which decreases" should be changed to --braking performances which decrease--;
  - In line 6 from the bottom of claim 4 the phrase "the at least a sensor" should be changed to --the at least one sensor-- to maintain consistency;
  - In line 2 from the bottom and top of claim 8 the phrase "the staring" should be changed to --the starting--. Appropriate correction is required.
- The remaining claims are objected to due to their dependency from one of claims 1 and 4.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 1. The phrase "the rear wheel" in the last line of the claim is indefinite. It is unclear to the Examiner as to which rear wheel Applicant intends to refer to since a plurality of rear wheels was previously claimed.

Re: claim 2. The phrase "the rear wheel" in line 5 is indefinite. It is unclear to the Examiner as to which rear wheel Applicant intends to refer to since a plurality of rear wheels was previously claimed.

Re: claim 2. The phrase "the front wheel braking force" lacks proper antecedent basis.

Re: claims 2 and 3. The phrase "parameters each indicating braking performances of the respective braking force generating apparatuses of the front and rear wheels" in the last three lines of claim 2 is unclear since in the last two lines of paragraph [0011] of the specification Applicant describes a parameter as a vehicle-dependent braking effectiveness factor of a front wheel. The phrase in claim 2, however, recites parameters of the rear wheels as well. Therefore, it is unclear to the Examiner as to what exactly the parameter is or includes. Also, the phrase "the parameters indicate braking performances which decreases as the vehicle speed increases" in claim 3 is unclear.

Re: claim 4. The phrases “an operational condition” and “a sensor” in line 7 are indefinite. It is unclear to the Examiner whether the operational condition and sensor recited in line 7 are intended to be the same or different from those earlier claimed.

Re: claim 4. The phrase “braking force” in line 3 from the bottom is indefinite. It is unclear to the Examiner whether the braking force in line 3 from the bottom is intended to be the same or different from an earlier claimed braking force.

Re: claim 5. The phrase “the braking force increment” in lines 1-2 of claim 5 lacks proper antecedent basis.

Re: claim 6. The phrase “the wheels” in line 2 is indefinite. It is unclear to the Examiner as to which wheels Applicant intends to refer to –the front wheels, the rear wheels, one of each of the front and rear wheels, etc. Also the phrase “the braking force increment in lines 3-4 of claim 6 lacks proper antecedent basis.

Re: claim 7. The phrase “the braking force increment” in lines 8-9 lacks proper antecedent basis. The phrase “a current master cylinder pressure” in lines 2-3 from the bottom of claim 7 is indefinite. It is unclear to the Examiner whether the current master cylinder pressure in lines 2-3 from the bottom of claim 7 is different or the same as that earlier recited.

Re: claim 8. The phrase “a master cylinder pressure” in lines 2-3 is indefinite. It is unclear to the Examiner whether the master cylinder pressure in claim 8 is intended to be the same or different from the current master cylinder pressure in claim 7.

Re: claim 9. The phrase “the increments” in line 3 lack proper antecedent basis in the claim.

Re: claim 10. The phrase "the braking force increment" in lines 1-2 lack proper antecedent basis in the claim.

The remaining claims are indefinite due to their dependency from one of claims 1 and 4.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-13 are rejected under 35 U.S.C. 102(a) as being anticipated by JP-2003-160039 (JP'039).

Re: claims 1-13. JP'039 shows in figure 1-3 a device for controlling braking force of a vehicle having front and rear wheels (26i with i representing RL,RR,FL,FR) and braking force generating apparatuses provided for each of the wheels shown in the area of 26i, the device executing braking force distribution control through restricting the increase of the braking force on the rear wheels, generated by the braking force generating apparatus of the rear wheels, for providing a braking force distribution among the front and rear wheels, biased to the front wheels, under a predetermined condition, wherein the device controls the braking force generating apparatuses of the front wheels to increment braking force generated on the front wheel, depending upon a restricted amount of the braking force on the rear wheel during execution of the braking



force distribution. See lines 1-7 from the bottom of the Solution section of the English abstract and also see figure 3.

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6338017 to Kato et al

Re: claim 1. Kato et al. show in figures 1 and 2 a device for controlling braking force of a vehicle having front and rear wheels FR, RR, FL, RL and braking force generating apparatuses shown in the area of elements 21-24 provided for each of the wheels, the device executing braking force distribution control through restricting the increase of the braking force on the rear wheels, generated by the braking force generating apparatus of the rear wheels, for providing a braking force distribution among the front and rear wheels, biased to the front wheels, under a predetermined condition, wherein the device controls the braking force generating apparatuses of the front wheels to increment braking force generated on the front wheel, depending upon a restricted amount of the braking force on the rear wheel during execution of the braking force distribution as disclosed in col. 6 lines 4-10.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of JP-07117655 (JP'655).

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13 MB 3/3/05  
Re: claims 2, 4-9, 11, 12, and ~~12~~. Kato et al. show in figure 1 and 2 the device comprising a master cylinder 11 receiving a braking action by a driver of the vehicle via element 14 and providing an operational fluid pressure corresponding to the braking action to wheel cylinders 21-24 in the braking force generating apparatuses, wherein the increase of the braking force on the rear wheel is restricted by restricting the increase of pressure in the wheel cylinders of the rear wheels as disclosed in col. 6 lines 4-10.

Kato et al. fail to specifically disclose that the front wheel braking force is incremented by determining an increment in the wheel cylinders of the front wheels based upon the braking action by the driver, the pressures in the wheel cylinders of the rear wheel and parameters each indicating braking performances of the respective braking force generating apparatuses of the front and rear wheels, and incrementing pressure in the front wheel cylinders based upon the increment.

JP'655 teaches in lines 1-4 of the Purpose section of the English abstract the limitation of determining an increment in the wheel cylinders of the front wheels based upon the braking action by the driver, the pressures in the wheel cylinders of the rear wheel and parameters each indicating braking performances of the respective braking force generating apparatuses of the front and rear wheels, and incrementing pressure in the front wheel cylinders based upon the increment.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake control of Kato et al. to have included

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control actions taking place on the front wheel side of the vehicle, as taught by JP'655, in order to provide a means of improving the stability of the vehicle.

Re: claim 3. A sensor monitoring vehicle speed is suggested by the calculation of  $V_{so}$  or estimated vehicle speed in box 105 in figure 3 the parameters indicating braking performances or stability which decreases as the vehicle speed increases.

Re: claim 10. Kato et al., as modified, fail to specifically recite that the braking force increment on the front wheels are substantially equal to the restricted amount of the braking force on the rear wheels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the braking force increment to have been equal to the restricted amount of the braking force since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d, 272, 205 USPQ 215 (CCPA 1980).

***Conclusion***

13. In order to complete the record, it should be noted that no conflict appears to presently exist between the subject matter defined by the instant claims and the subject matter of the claims of applicant's and/or assignee's copending application no.

10/815833 has been made of record. Accordingly, no double patenting rejection is entered into the instant application. See MPEP 804+ concerning double patenting type of rejections, if necessary. Applicant and/or assignee should maintain this clear line of patentable distinction between the instant claims and the claims of the indicated patent application.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 6623090 to Ullmann et al. and JP-2000335389 teach the use of a brake system incorporating braking force distribution control in which the rear wheels are prevented from early locking by suppressing the up gradient of the braking force of the rear wheels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*mmb*

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March 3, 2005

*Melody M. Bunce*

*3/3/05*